NOTE.—This proof is good only for $n > r$. Numerical examples can easily be given to show that the formula is not true for $n \gtreqless r$.

Also solved by HORACE L. OLSON.

NOTES AND NEWS.

EDITED BY E. J. MOULTON, Northwestern University, Evanston, Ill.

Dr. J. N. VAN DER VRIES has resigned his position as professor of mathematics at the University of Kansas to continue his work as secretary of the central district of the Chamber of Commerce of the United States, with headquarters at Chicago.

Mr. G. H. CRESSE, previously instructor in the University of Michigan, has been appointed to an instructorship in mathematics at the U. S. Naval Academy at Annapolis; he was granted the degree of doctor of philosophy at the University of Chicago in December.

Mr. F. S. NOWLAN, of Bowdoin College, has been promoted to an assistant professorship of mathematics.

Dr. MARION B. WHITE, formerly of the Ypsilanti State Normal College, Michigan, is now professor of mathematics at Carleton College.

Dr. TOBIAS DANTZIG and Dr. G. A. PFEIFFER have been appointed instructors in mathematics at Columbia University.

Professor GRIFFITH C. EVANS is now scientific attaché to the American Embassy at Rome.

Dr. W. GROSS, of the University of Vienna, has been promoted to professor of mathematics.

Professor E. WIECHERT of Göttingen has been appointed professor of geodesy and geophysics at the University of Berlin.

Efforts are being made to establish a chair of mathematical physics at the University of Edinburgh in memory of the late Professor TAIT.

At the University of Strasbourg Professor RENÉ M. FRÉCHET, of the University of Poitiers, has been appointed professor of mathematics, and PIERRE WEISS, professor at the Polytechnikum, Zurich, professor of general physics.

CHARLES L. DOOLITTLE, professor emeritus of astronomy at the University of Pennsylvania, and director of the Flower Observatory, died on March 3, 1919, aged seventy-five years.

Mr. Roger E. Moore, son of Professor Ransom A. Moore of the Wisconsin College of Agriculture, and a contributor to the pages of this Monthly, died at Camp Taylor, Kentucky, in October, 1918.

François Daniëls of Nymwegen, Holland, professor of mathematics at the University of Fribourg, Switzerland, died on November 16, 1918, at the age of fifty-eight years. He was the author of *Essai de géométrie sphérique en coordonnées projectives* (Fribourg, 1907) and of articles in *L'Enseignement Mathématique.*

From the *Jahresbericht der Deutschen Mathematiker-Vereinigung* we learn of the deaths of the following mathematicians: Professor A. Benteli, of the University of Bern, on November 10, 1917, in his seventieth year. Professor E. Ott, of the University of Bern, on November 17, 1917, in his seventieth year. Dr. Robert Jentzch, of the University of Berlin, on March 21, 1918, fallen in battle. Professor M. B. Weinstein, of Berlin, in his sixty-fifth year. Professor G. Veronese, of the University of Padua, on July 17, 1917, in his sixty-third year.

Nature, for February 27, 1919, announces the death of Alexander Michailo-vitch Liapounoff who held the chair of applied mathematics in the Petrograd Academy. "His later, and perhaps best-known, work dealt with the stability of the pear-shaped figure of a rotating mass of liquid, a problem of the first importance to theories of cosmogony. Poincaré had developed a method for the analytical discussion of the problem in 1901, but did not carry out the necessary calculations in detail, and so reached no definite conclusion. In 1902 Sir G. Darwin announced that he had proved the pear-shaped figure to be stable, but this announcement was followed by a paper from Liapounoff in 1905, in which it was claimed that the pear-shaped figure was unstable. Liapounoff's work was distinguished by the combination of clear physical insight and masterly analytical skill." For somewhat more accurate statements in connection with the above see *Scientific Papers* by G. H. Darwin, Volume 5, 1916, pp. xliii–xliv.

Professor H. E. Buchanan, of the University of Tennessee, has been employed in Y. M. C. A. work during the past year.

Professor Joseph Allen, of the College of the City of New York, and Professor W. H. Metzler, of the University of Syracuse, have gone to France on Army educational work.

Captain P. L. Thorne, assistant professor of mathematics at New York University, has recently returned to his university work. He served at the front in France with the Sixtieth Heavy Artillery regiment.

Captain A. L. Underhill, of the University of Minnesota, has been appointed Commandant at the University of Grenoble in France, where several hundred American soldiers are taking courses while awaiting their opportunity to return home.

Professor EDWARD S. SMITH, of the department of mathematics at the University of Cincinnati, was, in addition to his regular duties, Acting Commandant of the Military Department from January to August, 1918, and Executive Secretary in charge of administrative matters in connection with the S. A. T. C. during the fall term.

The following reports of Summer Sessions, supplement those given in our last issue.

At *Oberlin College*, Professor W. D. CAIRNS will give courses in Freshman mathematics in the summer session, June 20 to August 7.

The Faculty of Applied Science of *Queen's University*, Kingston, will hold this year a special summer session for returned soldiers. The date of opening, about May 1, depends somewhat upon the time of demobilization, and the session will continue until the regular session begins in October. As a great many students enlisted early in the war, before they had finished their year, this session will serve either as a "refresher" course or will count as a year towards a degree.

University of Kansas, June 17–July 25, 1919. By Professor C. H. ASHTON: Differential Calculus (3 semester hrs. credit), and Advance analytic geometry (3 hrs.).—By Professor U. G. MITCHELL: Series (3 hrs.) and Teachers' course (3 hrs.). By Professor J. J. WHEELER: College algebra (2 hrs.) and Analytic geometry (4 hrs.). Second session, July 28–August 22. By Professor E. B. STOUFFER: Trigonometry (2 hrs.) and Theory of equations (2 hrs.).

University of Wisconsin: By Professor C. S. SLICHTER, Fourier series, 1 credit; Mechanics, 2 credits; Algebra, 2 credits. By Professor L. W. DOWLING: Equations of the third and higher degrees, 1 credit; Projective geometry, 2 credits; Analytic geometry, 2 credits. By Professor W. W. HART: The content of elementary mathematics, 1 credit; The teaching of secondary mathematics, 2 credits; Plane trigonometry and logarithms, 2 credits. By Professor H. C. WOLFF: Practical computation, 2 credits; Definite integrals, 1 credit; Calculus, 2 credits. By Dr. C. P. PAINE: Integral calculus, 4 credits. By Mr. R. W. BABCOCK: Elementary analysis, 4 credits; Solid geometry, 2 credits. A course in surveying will be given in the College of Engineering.

University of Chicago, June 16–August 29, 1919. By Professor G. A. BLISS: Differential equations (Lie theory), 4 hours; Differential calculus, 5 hours. By Professor W. D. MACMILLAN: Celestial mechanics, 4 hours. By Professor F. R. MOULTON: The solution of numerical differential equations, 4 hours. By Professor H. E. SLAUGHT: Elliptic integrals, 4 hours; Integral calculus, 5 hours. By Professor E. J. WILCZYNSKI: Metric differential geometry, 4 hours; College algebra, 5 hours. By Professor J. W. A. YOUNG: Solid analytic geometry, 4 hours; Plane trigonometry, 5 hours. By Professor A. B. COBLE (University of Illinois): Elliptic modular functions, 4 hours; Plane analytic geometry, 5 hours. By Professor T. H. HILDEBRANDT (University of Michigan): Theory of functions of a real variable, 4 hours; Limits and series, 5 hours. By Professor G. W. MYERS (School of Education): The teaching of secondary mathematics, 5 hours.